

CLAIMS

What is claimed is:

5 1. A smart compensation wireless piconet device,
 comprising:

 a wireless piconet front end including a receiver portion and
 a transmitter portion; and

 a frequency offset history table adapted to contain a plurality
 of entries each corresponding to a past frequency offset of a device in a
10 piconet including said smart compensation wireless piconet device;

 wherein an expected center frequency of a signal received
 by said receiver portion is adjusted based on one of said plurality of
 entries in said frequency offset history table corresponding to a device
 transmitting said signal.

15

 2. The smart compensation wireless piconet device
 according to claim 1, further comprising:

 a local oscillator to control a transmit frequency of said
 transmitter portion of said wireless piconet front end.

20

 3. The smart compensation wireless piconet device
 according to claim 1, wherein:

 said wireless piconet front end is a BLUETOOTH front end.

25

4. A method for receiving in a receiving piconet device an information packet transmitted from a transmitting piconet device within a piconet network, comprising:

- 5 determining a center frequency of a channel used to transmit at least a portion of said information packet;
- looking up a past frequency offset value of said transmitting piconet device;
- adjusting a center frequency of an expected frequency of said information packet in a receiving portion of said receiving piconet device; and
- 10 receiving said information packet in said receiving piconet device.

5. The method for receiving in a receiving piconet device an information packet transmitted from a transmitting piconet device within a piconet network according to claim 4, further comprising:

- 15 altering a local oscillator of said receiving piconet device such that a transmit frequency of a transmitter of said receiving piconet device is offset by an amount approximately equal and opposite to a past
- 20 amount of frequency offset calculated from a past information packet received from said transmitting piconet device.

6. The method for receiving in a receiving piconet device an information packet transmitted from a transmitting piconet device within a piconet network according to claim 4, further comprising:

- 25 calculating an actual frequency offset based on said received information packet.

7. The method for receiving in a receiving piconet device an information packet transmitted from a transmitting piconet device within a piconet network according to claim 6, further comprising:

replacing in said receiving piconet device said past
5 frequency offset value for said transmitting piconet device with a new frequency offset calculated based on said calculated actual frequency offset.

8. The method for receiving in a receiving piconet device an
10 information packet transmitted from a transmitting piconet device within a piconet network according to claim 4, wherein:

said receiving piconet device and said transmitting piconet device are each BLUETOOTH devices.

15 9. Apparatus for receiving in a receiving piconet device an information packet transmitted from a transmitting piconet device within a piconet network, comprising:

means for determining a center frequency of a channel used to transmit at least a portion of said information packet;

20 means for looking up a past frequency offset value of said transmitting piconet device;

means for adjusting a center frequency of an expected frequency of said information packet in a receiving portion of said receiving piconet device; and

25 means for receiving said information packet in said receiving piconet device.

10. The apparatus for receiving in a receiving piconet device an information packet transmitted from a transmitting piconet device within a piconet network according to claim 9, further comprising:

means for altering a local oscillator of said receiving piconet device such that a transmit frequency of a transmitter of said receiving piconet device is offset by an amount approximately equal and opposite to a past amount of frequency offset calculated from a past information packet received from said transmitting piconet device.

11. The apparatus for receiving in a receiving piconet device an information packet transmitted from a transmitting piconet device within a piconet network according to claim 9, further comprising:

means for calculating an actual frequency offset based on said received information packet.

12. The apparatus for receiving in a receiving piconet device an information packet transmitted from a transmitting piconet device within a piconet network according to claim 11, further comprising:

means for replacing in said receiving piconet device said past frequency offset value for said transmitting piconet device with a new frequency offset calculated based on said calculated actual frequency offset.

13. The apparatus for receiving in a receiving piconet device an information packet transmitted from a transmitting piconet device within a piconet network according to claim 9, wherein:

said receiving piconet device and said transmitting piconet device are each BLUETOOTH devices.